

# NRF24L01P+PA+LNA V2



## Specification

- Range: 800+ meters line of sight
- Frequency: 2.4GHz~2.5GHz
- Operating voltage: 3 ~ 3.6V Max
- Max Current: 115mA
- Multi-frequency: 125 frequency

## Features

- The bi-directional wireless transceiver operates at 2.4GHz ISM band
- Transmit power is greater than +20 dBm
- Support six-channel data reception
- 2Mbit/s speed makes high-quality VoIP possible
- Low operating voltage: 2.7 to 3.6V
- Multi-frequency points: 125 frequency points meet the needs of multi-point communications and frequency hopping.
- Integrated with high-speed signal processing associated with RF protocol, such as: automatically re-send lost packets and generate acknowledge signal
- SPI interface facilitates communication with MCU I/O port.
- Software programming is fully compatible with NRF24L01+
- Module Size: 37.4mm x 16.6mm

## Possible Applications:

- Remote control
- Telemetry

- Wireless meter reading
- Access control systems
- Residential paging
- Industrial data acquisition systems
- Wireless tags
- Identification
- Contactless RF smart card
- Small wireless data terminal
- Fire safety systems
- Wireless remote control systems
- Bio-signal acquisition
- Wireless 232
- Wireless 422/485

### Specifications:

- IC: nRF24L01+
- Operating Frequency: 2400MHz ~ 2524MHz
- Modulation: GMSK
- Transmit power: more than +20 dbm, 50Ω
- Receiver sensitivity: -95dbm
- Operating voltage: 2.7V ~ 3.6V
- Max Emission current: 115mA
- Max Receive current: 45mA
- Operating temperature: -45 degrees to +85 degrees
- Storage temperature: -45 degrees to +125 degrees
- Gain Of PA: 20 dB
- Gain Of LNA: 10 dB

### Description

The wireless module is always popular in the IoT(Internet of Things) era. Especially, long-range version. This is NRF24L01P + PA + LNA wireless module, it operates in a license-free 2.4G [ISM \(industrial, scientific and medical\) band](#), you can do point-to-point application and can also be composed of a star network.

The Data transmission chip NRF24L01+(from Nordic), and PA and LNA, RF switch, bandpass filter integrated as a full two-way RF transceiver improve the effective communication distance. According to the spec, the wireless communication range can goes up to 1000 meters, that's pretty impressive, although, in the actual environment, we do expect it to perform at a short distance.

Compact size and easy to embed into any space-constrained product. Users can utilize the SPI port of Arduino or any other MCU to control NRF24L01P + PA + LNA. Comes with the compatible pin layout as its little brother - nRF24L01+ module, and the protocol/library are compatible too.

VCC must be within 2.7V to 3.6VDC, but the IO pins are 5V tolerance. So you can connect this directly to Arduino UNO without any level shifter, just take care of the VCC :)

PCB Layout

